



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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Ref: 8EPR-N

NOV 29 2012

Mr. Scott G. Fitzwilliams, Forest Supervisor  
White River National Forest – Oil and Gas Leasing DEIS  
P.O. Box 1919  
Sacramento, CA 95812

RE: EPA Comments on Draft Environmental  
Impact Statement, White River National Forest  
Oil and Gas Leasing; CEQ #20120284

Dear Mr. Fitzwilliams:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4321, *et seq.*, and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the August 2012 Draft Environmental Impact Statement (DEIS) for the White River National Forest (WRNF) Oil and Gas Leasing. This DEIS was prepared by the U.S. Department of Agriculture Forest Service (USFS) WRNF to analyze potential environmental impacts associated with a range of alternatives to address forest-wide decisions on lands available for oil and gas leasing and lease stipulations that will be applicable to future leases for the purpose of protecting resources. A Preferred Alternative has not been identified in the DEIS.

The EPA appreciates having had the opportunity to discuss issues and provide feedback to the USFS earlier this year regarding the DEIS. We also appreciate the efforts to address our preliminary suggestions. Based on our review of the DEIS, the EPA is offering comments on two major topics: water resources and air quality. We are also offering additional detailed technical comments via Enclosure 1 of this letter.

**Background**

The WRNF spans 2.3 million acres in the central Rocky Mountains of Colorado, and includes portions of Eagle, Pitkin, Garfield, Summit, Rio Blanco, Mesa, Gunnison, Routt and Moffat Counties. The USFS proposes to revise its 1993 WRNF Oil and Gas Leasing decision to make changes to the availability of WRNF lands for oil and gas leasing and related lease stipulations, e.g., No Surface Occupancy (NSO), Controlled Surface Use (CSU) and Timing Limitation (TL). The DEIS includes 4 alternatives, as follows:

- Alternative A (No Action) is a continuation of the 1993 decision identifying 417,264 acres of WRNF lands as available for oil and gas leasing with 25 lease stipulations that could be attached to future leases depending on the circumstances. This alternative closes 1,869,202 acres for oil and gas leasing. Oil and gas activity is projected as 678 wells.
- Alternative B revises the 1993 decision to allow no new leasing; therefore, there would be zero acres available for new oil and gas leasing with zero stipulations (since no new leases). This alternative closes 2,276,640 acres for oil and gas leasing. Oil and gas activity is projected as 487 wells based on existing leases.
- Alternative C (Proposed Action) revises the 1993 decision to provide 260,308 acres of WRNF lands available for oil and gas leasing with 30 lease stipulations. This alternative closes 2,016,332 acres for oil and gas leasing. Oil and gas activity is projected as 228 wells with activity constrained by new stipulations.
- Alternative D (Mixed Roadless Stipulations) revises the 1993 decision to provide 260,308 acres for oil and gas leasing with 31 lease stipulations. This alternative closes 2,016,332 acres for oil and gas leasing. Oil and gas activity is projected as 404 wells with activity constrained by new stipulations.

### **Comments and Recommendations Regarding Water Resources**

Lease Stipulations: Alternatives C and D provide several important lease stipulations, e.g., NSOs and CSUs to protect water resources. Specifically, the NSOs and CSUs in these alternatives will minimize impacts to fen wetlands, water influence zones (WIZ), public water supply source areas, and groundwater resources.

Groundwater and Surface Water Monitoring: The DEIS defers discussion of future monitoring requirements to the project level. The EPA recommends disclosing future monitoring requirements in this Final EIS (FEIS) in order to provide operators, the public and other stakeholders an opportunity to review and comment. Given that the COGCC has requirements for surface water monitoring for surface water drinking water sources, we recommend that the FEIS address this comment by including a reference to the COGCC requirements. For groundwater, we recommend the FEIS include a commitment to require baseline and long-term monitoring for future oil and gas development projects.

Water Quality and Quantity Impacts: The DEIS defers discussion of site-specific water quality and water quantity impacts from energy development to the project level. In order to understand the cumulative impacts of projected oil and gas development to water resources, the EPA recommends the FEIS disclose for each alternative the predicted amount of water anticipated to be consumed by oil and gas development operations including water used for drilling and completing (i.e., stimulating) the wells. We also recommend that the FEIS include a requirement that future multiple-well oil and gas projects provide a water resources management plan to address potential water quality impacts due to consumption, storage and disposal of water used in oil and gas production.

Groundwater Resources: The DEIS describes a vulnerability study of groundwater resources in the WRNF that identified susceptible groundwater resources. We recommend that the FEIS disclose location information for these resources, including the location of recharge areas and sensitive groundwater areas. If these areas have not been defined, then we recommend the FEIS include a discussion of how these areas will be determined after leasing.

The WRNF groundwater vulnerability study is valuable because it identified certain sensitive groundwater resources that require protection. The study focused on groundwater to a depth of less than or equal to five feet. Because oil and gas development could impact groundwater at greater depths due to pits, leaks and spills, we recommend that the USFS include a requirement in the FEIS and Record of Decision (ROD) to require future project-specific NEPA analyses to determine if there is additional sensitive groundwater that was not identified in the existing groundwater vulnerability study.

For domestic supply wells, EPA recommends a minimum 500-foot buffer, consistent with proposed protections on Federal lands in the Bureau of Land Management (BLM) White River Field Office (WRFO).<sup>1</sup>

Impacts to Water Resources from Roads: The DEIS projects between 49 and 86 miles of new road construction, depending on the alternative, and notes that future roads would undergo NEPA review. We recommend the FEIS include a general discussion about the types of mitigation measures the USFS may require at the project level to limit impacts to surface waters from roads. Examples of such measures or best practices that EPA recommends to be listed in the DEIS include:

- Prohibiting roads in riparian areas or areas with erosive soils;
- Minimizing the number of road-stream crossings; and
- Managing road drainage and erosion to avoid routing sediment to streams.

### **Comments and Recommendations Regarding Air Quality**

Access to Analyses: The USFS has incorporated air quality analyses into the DEIS to address impacts projected from oil and gas development activities. We appreciate that the DEIS includes links to access technical support documentation for (1) the USFS's CALPUFF modeling analysis, (2) the WRNF's Oil and Gas Ozone Impact Analysis, and (3) the BLM's larger scale ozone modeling analysis completed for the Colorado River Valley Field Office (CRVFO) Resource Management Plan (RMP) and relied upon in the WRNF analysis. Unfortunately, we were unable to access this information either due to the links not working or difficulty in finding documentation once navigating through the web site. For our review, we relied upon information the USFS provided during Cooperating Agency review and information we received from the BLM CRVFO. If this information will not be included in hard copy form with the FEIS, it will be important for the information to be easily accessible online, e.g., the web address referenced should provide direct

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<sup>1</sup> The proposed BLM WRFO stipulation states that a CSU stipulation will be applied to oil and gas leases and land use authorizations to avoid the following areas: (1) identified 100-year floodplains; (2) areas within 500 feet from perennial waters, springs, wells and wetland/riparian areas; and (3) areas 100 feet from the inner gorge of ephemeral channels.

access to the document of interest.

Presentation of Potential Air Quality Impacts for All Action Alternatives: The DEIS includes a discussion of how air quality impacts were assessed for the two alternatives that were estimated to have the maximum and minimum future potential oil and gas development activity and therefore, the maximum and minimum air quality impacts. In this case, the maximum future development potential would occur under Alternative A (no action) and the minimum future development potential would occur under action Alternative C. To provide full disclosure, we recommend that the FEIS provide the air quality impacts for all action alternatives. The EPA requests the opportunity to work with the USFS prior to release of the FEIS to develop mitigation measures that may be necessary if the Preferred Alternative is predicted to have significant air quality impacts. EPA also encourages USFS to provide an opportunity for the CDPHE to participate in this effort.

Modeling Analyses and Assumptions: The DEIS does not identify the modeling assumptions used in either the BLM ozone modeling analysis completed for the CRVFO RMP or the WRNF's Oil and Gas Ozone Impact Analysis, completed as a subset of the BLM ozone analysis. Based on our understanding of the BLM CRVFO ozone analysis, modeling assumptions included such measures as 94% control efficiency for road dust control (using gravel and magnesium chloride), twice-daily watering of construction areas, and natural gas-fired drill rig and frac pump engines. We note that the emissions inventories for projected emissions are quite different between the ozone analyses and the USFS CALPUFF modeling analysis for this project.<sup>2</sup>

We recommend that the FEIS include the following: (1) a summary of all mitigation assumptions utilized for the CALPUFF and ozone modeling exercises and (2) a list of mitigation measures that will be required at the project level based on these emissions inventory and modeling assumptions. If the USFS does not intend to require all of the mitigation measures used to develop the ozone modeling emissions inventory, then the FEIS must disclose the following:

- the difference between the modeled emission results and the projected actual emissions;
- the rationale for the USFS's selected mitigation measures; and
- a demonstration that the selected measures will ensure that emissions from future WRNF oil and gas development will not cause adverse impacts to the National Ambient Air Quality Standards (NAAQS).

This information is particularly critical because the WRNF is near numerous population centers, as well as three mandatory Class I Federal areas (i.e., Eagle's Nest Wilderness Area, Flat Tops Wilderness Area, and Maroon Bells/Snowmass Wilderness Area), that require protection of air quality for public health and the environment.

Near-Field Analyses: We note that the DEIS includes a commitment to conduct near-field analyses at the project level (p. 3-146). We recommend that this important commitment be included in the

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<sup>2</sup> The USFS CALPUFF modeling was based on emissions mitigation from federal and state air pollution control regulations that are currently effective or expected to be phased in by 2020.

FEIS and the ROD, along with a commitment to mitigate adverse air quality impacts identified through these future analyses. In addition, we recommend the FEIS clarify that these future analyses will be made available to WRNF air quality stakeholder work groups. We note that recent modeling conducted for BLM's CRVFO RMP and WRFO RMP confirmed that mitigation is needed to prevent near-field exceedances (1-hour NO<sub>2</sub>) of the NAAQS. In addition, while the October 2010 modeling protocol for this oil and gas leasing cumulative analysis omitted facilities with NO<sub>x</sub>, SO<sub>2</sub> and PM<sub>10</sub> emissions less than 10 tons per year and fugitive emission sources of PM<sub>10</sub> less than 25 tons per year, we assume these emissions will be included in the future project-specific near-field analyses. We recommend that the FEIS confirm plans to include this additional information to ensure that all air emissions from future proposed actions that influence local and regional air quality and air quality related values are incorporated under future analyses.

Greenhouse Gas (GHG) Emissions: We appreciate the disclosure of GHG emission estimates included in the DEIS. It would be helpful to also include in the FEIS a reference for the Hells Gulch II environmental analysis that USFS relied upon for these emissions estimates so that the public may access and understand the calculations. As we have noted previously, we also suggest including the following information in the GHG analysis:

- a summary discussion of ongoing and projected regional climate change impacts relevant to the action area based on U.S. Global Change Research Program assessments; and
- an analysis of potential means to mitigate GHG emissions related to this action. For a good example of how this analysis was addressed in another USFS oil and gas leasing EIS, please refer to the FEIS for Oil and Gas Leasing on the Dixie National Forest, Supplemental Information Report for Air Resources, Appendix 2. See <http://www.fs.usda.gov/detail/dixie/landmanagement/?cid=STELPRDB5325040>).

## **Other Issues**

### Water Resource Impacts on Endangered Species

The DEIS identifies five Endangered Species Act-listed endangered fish species as potentially affected by activity on the WRNF. Four of these fish species are currently being recovered under the Upper Colorado River Endangered Fish Recovery Program through a partnership of State, Federal and non-governmental organizations. Given that water consumption and produced water disposal considerations identified in our water resources comments above could impact these protected species, we recommend the FEIS describe how the USFS will ensure that future projects will comply with the recovery goals of the Upper Colorado River Endangered Fish Recovery Program.

### **The EPA's Rating**

Consistent with Section 309 of the CAA, it is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action, EPA is rating this DEIS as Environmental Concerns – Insufficient Information



(EC-2). The "EC" rating indicates that EPA review has identified environmental impacts that need to be avoided in order to fully protect the environment. The "2" rating indicates that EPA has identified additional information, data, analyses, or discussion that we recommend for inclusion in the FEIS. Because a preferred alternative was not identified in the DEIS, we are rating the DEIS based on Alternatives B, C and D (we do not rate the no action alternative). A full description of EPA's rating system is included in Enclosure 2.

We appreciate the opportunity to review and comment on this DEIS and hope that our comments will assist you in further disclosing and reducing the environmental impacts of this project. If we may provide further explanation of our comments, please contact me at 303-312-6925, or your staff may contact Amy Platt at 303-312-6449.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. J. Bohan', with a long horizontal flourish extending to the right.

Suzanne J. Bohan  
Director, NEPA Compliance and Review Program  
Office of Ecosystems Protection and Remediation

Enclosures

## Enclosure 1

### EPA's Detailed Comments on the White River National Forest Oil and Gas Leasing August 2012 Draft Environmental Impact Statement

#### **Water Resources**

Lease Stipulations: The summary on p. A-4 appears to have omitted the CSU stipulation for Public Water Supply Source Area Protection on p. A-35. It appears that this CSU stipulation includes the requirements of the COGCC for surface water public drinking water supplies (including monitoring) and adds monitoring for groundwater wells. We recommend the FEIS confirm that the COGCC rules will be followed by the USFS and BLM on the WRNF lands. Since the COGCC has requirements for water quality monitoring, it is confusing that the DEIS includes a discussion regarding the possibility of monitoring being included as a condition of approval for project level analyses (p. 3-107).

We recommend the FEIS include an explanation regarding why the setback distances are different between the NSO for Public Water Supply Source Areas (p. A-13) and the CSU for Public Water Supply Source Areas (p. A-35).

For the Fen Wetlands NSO (p. A-11), we recommend clarifying that the NSO does not provide waivers, exceptions or modifications for placement of road or pipelines since the WIZ NSO, which also addresses wetlands, exempts these activities.

Throughout Appendix A, Lease Stipulations, reference is made to a map titled "Exhibit A." However, Exhibit A was not provided. We recommend the FEIS include Exhibit A in Appendix A to facilitate the reader's understanding and evaluation of the protectiveness of the stipulations to water resources in the proposed leasing areas.

Clarification of Municipal Supply Watersheds and Public Water Supply Source Areas: The DEIS is not consistent in its use of the terms "municipal supply watershed" and "public water supply source area." For example, p. 3-111 references an NSO to protect Municipal Supply Watersheds; however, Appendix A, Lease Stipulations, does not include this NSO. Instead, an NSO is provided for Public Water Supply Source Areas. Based on conversations with USFS staff, we understand that the USFS considers these terms synonymous; therefore, we recommend the FEIS be clarified. In addition, the DEIS notes that the State of Colorado has identified 22 Public Water Supply Source Areas that overlap the project area boundaries. We recommend the FEIS include a map of these areas.

Groundwater Resources: Please revise the reference to EPA requirements for spill remediation on p. 3-107. EPA has no responsibility for spill remediation related to energy development on Federal land.

The DEIS includes a discussion of mitigation measures for potential impacts from oil and gas development on domestic wells and springs. We note that DEIS p. 3-108 references Colorado Division of Water Resources (DWR) requirements related to oil and gas operations and setbacks from domestic water wells. Based on EPA's conversations with the DWR, it appears that this discussion should be clarified regarding DWR requirements. In particular, the DWR requires notice to any existing production water well owner whose well is within 600 feet of a proposed oil and gas water well. However, DWR does not "prohibit oil and gas operations within 500 feet of permitted water wells and within 2.5 miles of a water well" and does not otherwise impose restriction on oil and gas operations in the vicinity of water wells. Please update this section in the FEIS to clarify that DWR requirements are related to notification only.

Lease Notices: The DEIS states that lease notices have not been developed for this oil and gas leasing analysis, but they will be addressed at the project-specific phase of analysis. For your consideration as future projects are identified, we recommend you include a lease notice that alerts producers that they are operating in an area providing public drinking water supplies, as well as a notice to prohibit evaporation pits on public lands. These types of lease notices are consistent with those included in BLM's WRFO RMP/DEIS Preferred Alternative as LN-01 and LN-03.

## **Air Quality**

Cumulative 1-Hour NO<sub>2</sub> Impacts: We note that cumulative 1-hour NO<sub>2</sub> values were calculated and added to the DEIS for the Raggeds Wilderness Area and the City of Rifle. We recommend the FEIS include a brief summary of the procedure used to manually calculate these values to present the 98<sup>th</sup> percentile as the 8<sup>th</sup> high annual value given the inability of the model to directly output the necessary values.

Appendix D - Proposed Forest Plan Amendment: We appreciate that the DEIS p. 1-7 includes a reference to the June 23, 2011 NEPA Air Quality Memorandum of Understanding between the U.S. Department of Agriculture, U.S. Department of Interior and the EPA for Oil and Gas Decisions on Federal Lands. However, it appears that this reference was omitted from proposed revisions to the Forest Plan as described on p. D-12. Please update this section in the FEIS.

Existing Conditions: We recommend that Table 20, National Ambient Air Quality Standards and PSD Increment Values, include an entry for Lead to ensure that all pollutants with national standards are disclosed. While we understand the USFS's omission of lead from its air quality impacts analysis given the lack of lead emissions associated with oil and gas development, we suggest the FEIS disclose potential sources of airborne lead in the vicinity of the WRNF, along with an explanation that emissions of lead from oil and gas development will be negligible.



## ENCLOSURE 2

### U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

#### Definitions and Follow-Up Action\*

##### Environmental Impact of the Action

**LO - - Lack of Objections:** The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC - - Environmental Concerns:** The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO - - Environmental Objections:** The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU - - Environmentally Unsatisfactory:** The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

##### Adequacy of the Impact Statement

**Category 1 - - Adequate:** EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 - - Insufficient Information:** The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 - - Inadequate:** EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

